

Claims:

- Sub 1* 1. A method, executed in a control node, for controlling bandwidth of communication from a station to a destination module, where said station sends packets that carry a voice signal in a channel specified by said control node, comprising the steps of:
- a) first ascertaining whether said station is in a silence period;
 - b) when said step of first ascertaining concludes that said station is in a silence period, sending a control message to said station that reduces bandwidth of said channel;
 - c) second ascertaining whether said station is in an active period;
 - d) when said step of second ascertaining determines that said station is in an active period, determining whether there is access capacity that can be assigned to said station; and
 - e) sending a control message to said station that increases said bandwidth of said channel when said step of determining concludes that there is access capacity that can be assigned to said station.
2. The method of claim 1 where said station is a cellular phone and said destination module is a base station.
3. The method of claim 1 where said station is a cellular phone, said destination module is a base station, and said control node is within said base station.
- Sub C1* 4. The method of claim 1 where said station communicates its packets in time slots assigned by said control node that recur at a given rate.
5. The method of claim 4 where said control message that reduces bandwidth of said channel specifies time slots that recur at a lower rate.

6. The method of claim 4 where said control message that reduces bandwidth of said channel specifies time slots that recur at a lower average rate.

7. The method of claim 4 where said time slots are time slots having a first specified ordinal position in a block of time slots; where a preselected number of blocks of time slots forming a frame.

8. The method of claim 7 where said control message that reduces bandwidth of said channel specifies slots having a second ordinal position in a subset of blocks of said frame, where said second ordinal position is the same or different from said first ordinal position; with the difference between number of blocks in said frame and number of blocks in said subset of blocks representing freed capacity.

9. The method of claim 8 where said number of blocks in said subset of blocks is not less than a preselected proportion of said number of block that form said frame.

10. The method of claim 8 where said number of blocks in said subset of blocks is not less than a quarter of said number of block that form said frame.

11. The method of claim 9 where said proportion is related to a reduced Quality of Service that said station is to maintain.

12. The method of claim 8 where said freed capacity includes at least a number of blocks necessary to provide said reduced Quality of Service.

13. The method of claim 8 further comprising a step of assigning said freed capacity to another station.

14. The method of claim **13** where said another station is a station that sends packets that carry a voice signal.

15. The method of claim **13** where said another station is a station that sends packets of a non real-time source.

16. The method of claim **1** where said station communicates its packets in a frequency band assigned by said control module.

17. The method of claim **1** where said steps a) and b) are carried out when said control node believes said station to be active and operating at full bandwidth.

18. The method of claim **1** where said step c) through e) are carried out when said control node believes said station to be operating at less than full bandwidth.

19. The method of claim **1** where said control node executes said steps a) through e) for each station that shares a transmission medium in which said channel resides.

20. The method of claim **1** where said step of first ascertaining comprises said control node measuring said voice signal embedded in said packets and determining from said measuring whether said station is in said silence period.

21. The method of claim **1** where said step of first ascertaining comprises said control node receiving a message from said station that informs said control node that station has entered said silence period.

22. The method of claim **21** where said control node receives said message from said station via said destination.

23. The method of claim 1 where said step of second ascertaining comprises said control node measuring said voice signal embedded in said packets and determining from said measuring whether said station is in said active period.

24. The method of claim 1 where said step of second ascertaining comprises said control node receiving a message from said station that informs said control node that station has entered said active period.

25. The method of claim 1 where said step of second ascertaining comprises said control node receiving a message from said station that informs said control node that station is about to enter said active period.

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